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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/058,810	04/13/1998	UTE NEGELE	225/44173	7867

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EXAMINER	
CHEN, VIVIAN	
ART UNIT	PAPER NUMBER
1773	22

DATE MAILED: 02/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**Application No.  
**09/058,810**Applicant(s)  
**NEGELE et al**Examiner  
**Vivian Chen**Art Unit  
**1773**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11-23-01.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-50 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-30 and 32-50 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some\* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 18) ☒ Interview Summary (PTO-413) Paper No(s). 22
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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## **DETAILED ACTION**

1. Claims 1-27 have been cancelled.
2. The finality of the rejections of Paper No. 18 (mailed 5/22/2001) is hereby withdrawn in favor of the reinstated grounds of rejection upon further consideration of the prior art of record. Any inconvenience to the Applicant is regretted.

### ***Specification***

3. The amendment filed 11/23/2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the newly added limitation precluding compounds that do not undergo a Diels-Alder reaction. Negative limitations to amend claims around the prior art constitute new matter if not supported by the specification. *Ex Parte Grasselli*, 231 USPQ 393.

Applicant is required to cancel the new matter in the reply to this Office action.

### ***Claim Rejections - 35 USC § 112***

4. Claims 28-50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the reasons stated above in the objection under 35 U.S.C. 132 of the amendment filed 11/23/2001. Applicant should point out with specificity any alleged support for the amended claim language.

5. The rejections of claim 44 under 35 USC 112, first paragraph, in paragraph 2 of the previous Office Action mailed 8/30/2000 have been withdrawn in view of Applicant's arguments regarding a typographical error during the translation of the priority document.

6. The rejections of claims 42-43 under 35 USC 112, second paragraph, in paragraph 4 of the previous Office Action mailed 8/30/2000 have been withdrawn in view of Applicant's reliance on the specification which state that in regard with this particular invention, "thin" organic films have thicknesses of 10-5000 nm (Specification, page 3, lines 21-22).

***Claim Rejections - 35 USC § 103***

7. Claims 28-30, 32-35, 38-47, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over SUGIO ET AL (US 4,496,695).

SUGIO ET AL discloses metal substrates coated with corrosion resistant curable coating and/or adhesive compositions, said compositions comprising a polyfunctional maleimide-functionalized compound as recited in claim 30 and other copolymerizable components such as

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epoxy resins and polyfunctional cyanate esters, wherein the coating is applied to a substrate by applying the coating composition in the form of a solvent-based solution, followed by curing the coating at temperatures of 50-400°C or with radiation, wherein the coating composition can also contain additives such as catalysts and dispersants (columns 5-6; lines 63-68, col. 8; lines 40-48, col. 9; line 26, col. 10 to line 10, col. 11; lines 55-68, col. 11) as recited in claims 28-30, 32-33, 35, 38-41, 50. However, the reference does not explicitly disclose the recited thickness or pre-coating steps.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the thickness of the coating layer disclosed in SUGIO ET AL as indicated in claim 34 depending on the adhesive and mechanical properties required by a given usage. It is conventional to pre-clean metal substrates prior to coating as indicated in claim 29 in order to improve the adhesion of subsequently applied coatings. It would have been obvious to apply the compositions using conventional types of coating solutions such as solutions, dispersions or emulsions, and to adjust the concentration of the compositions in such forms as indicated in claims 35, 44 depending on the specific coating method and apparatus used. It would have been obvious to apply to the disclosed coatings to commonly used metals such as steel or aluminum as indicated in claim 48. It would have been obvious to utilize additional functional coatings such as curable organic adhesion promoters on the metal substrate prior to coating as indicated in claims 42-46 in order to improve interlayer adhesion, and protective topcoats as indicated in claim 29, 47 in order to improve durability.

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8. Claims 28-30, 32-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIENERT ET AL (US 5,084,304).

LIENERT ET AL discloses metal substrates coated with corrosion resistant curable coating compositions, said compositions comprising a polyfunctional bismaleimide compound and other reactive polymeric components, wherein the coating is applied to a substrate by first applying an optional primer coating in solution form, curing the optional primer coat, followed by the application of the bismaleimide-containing coating composition in the form of a solvent-based solution and the curing the said bismaleimide-containing coating at typical temperatures of 200-350°C to form a layer having a typical thickness of 4-23  $\mu\text{m}$ , wherein the coating composition can also contain additives such as peroxide catalysts and wherein the substrate can be aluminum and/or automotive components (lines 13-35, col. 2; line 22, col. 10 to line 22, col. 11; lines 36-41, col. 11; line 50, col. 11 to line 30, col. 12) as recited in claims 28-30, 32-43, 48-50. However, the reference does not explicitly disclose the recited pre-coating steps.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use conventional substrate treatment steps such as pre-cleaning metal substrates prior to applying the coatings of LIENERT ET AL as indicated in claim 29 in order to improve the adhesion of the coatings. It would have been obvious to adjust the concentration of the coating composition as indicated in claims 35, 44 depending on the specific coating method and equipment used, and also to select the curing temperature as indicated in claims 45-46 depending

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on the specific formulation and catalysts used. One of ordinary skill in the art would have utilized conventional additives such as dispersants as indicated in claim 39 in order to improve the coating characteristics and uniformity of the disclosed composition. It would have been obvious to utilize additional functional coatings such as protective topcoats as indicated in claim 29, 47 in order to improve durability.

***Response to Arguments***

9. Applicant's arguments filed 11/23/2001 have been fully considered but they are not persuasive.

(A) Applicant argues that the disclosure as originally filed provides implicit support for the negative limitation "which does not undergoes a Diels-Alder reaction", relying upon the Negele declaration. However, while the declaration and Applicant contends that one of ordinary skill in the art would clearly recognize from the specification and the list of preferred compounds with conjugated double bonds are undesirable and to be excluded, the Examiner is not persuaded. It is the Examiner's position that the specification does not clearly provide, either explicitly or implicitly, adequate support for the exclusion of compounds capable of undergoing Diels-Alder reactions, and that one of ordinary skill in the art would *not* reasonably infer from the disclosure (as originally filed) that such compounds must be avoided, as discussed in detail in paragraph 5(A) in the previous Office Action mailed 5/22/2001, and also in view of EUROPEAN PATENT

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APPLICATION 0 357 110 A1 which discloses coatings derived from reacting conjugated dienes with polyfunctional maleimide curing compounds.

*Allowable Subject Matter*

10. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to disclose or suggest a method of corrosion-proofing a substrate utilizing a bond coating containing a polybismaleimide compound selected from the maleimide-terminated polymers listed in claim 31.



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*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (703) 305-3551. The examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:00 PM and on alternate Fridays from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Paul Thibodeau, can be reached on (703) 308-2367.

For Art Unit 1773, the fax phone numbers are as follows:

official faxes:

(703) 305-3601

(703) 305-7718

unofficial faxes:


(703) 305-5436

(703) 305-3602

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (703) 308-0661.

VC

December 6, 2001

  
Vivian Chen  
Primary Examiner  
Group 1700